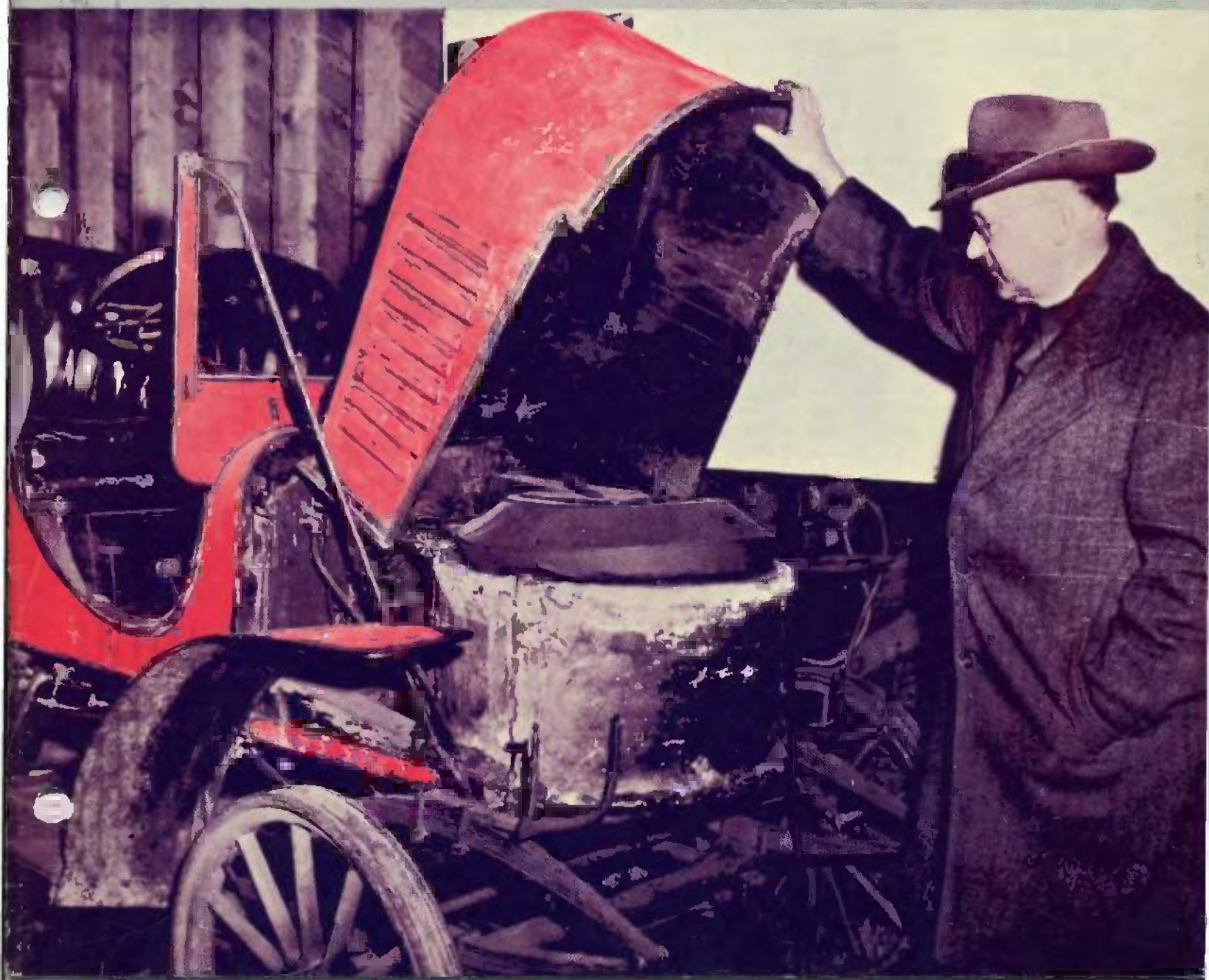


# *The* STEAM AUTOMOBILE

*Vol. 8 No. 4*

*1966*





# The STEAM AUTOMOBILE

S. S. MINER, *Editor*

T.A. HOSICK, *Technical Editor*

Earle Eckel may have been wondering, "Why would anyone in his right mind ever quit flying autogiros and get tangled up with restoring steam cars?", when this photo was taken several years ago in his airplane hangar in New Jersey. But restore it he did, and to pristine condition. The car, a 1908 Stanley 20 H.P. Model F, now belongs to Bob Lyon. It appeared on the Spring, 1964 cover of the Steam Automobile.

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## WELCOME, SWEET SPRINGTIME

Is it naive to think that the steam automobile can make a comeback? This depends upon a lot of things. To begin with, it depends upon what is meant by a comeback. If by this word, it is meant that a manufacturer like Ford will stop making internal combustion engines and start making steam engines for their cars, it is probably pretty naive. From their point of view it would probably seem nutty, quite irrespective of the merits of steam as a means of propelling automobiles. What would they do with all that machinery that has no use except to make internal combustion engines? And their engineers — how to retrain them in the thermodynamics and mechanics of steam? One shudders at the thought. Their answer to any threat to internal combustion is bound to be to correct and improve it, not abandon it — and this is just what they are trying to do to combat smog.

Of course smog is a real problem, and the large automobile manufacturers, among other things, have done a certain amount of talking about electric cars. They have even put together a couple of battery-powered vehicles to show the reporters, who have looked and then dutifully trotted back to their

typewriters to tell about the wonders they have seen. Behind his smog screen, there has undoubtedly been some frenzied head-scratching, but out of it no production forecasts on electric cars have emerged.

There is, however one manufacturer who has announced production of an electric car, with a 25 mph speed and a 50 mile range. Not an automobile manufacturer though; it's Westinghouse. Obviously any trend that increases the consumption of electric power and paraphernalia is all to the good for them; they have no particular stake in the internal combustion engine.

Well, if by a steam comeback it is meant that someone other than an established automobile manufacturer will produce a steam car, is this naive? Perhaps not so much so, but now other questions must be asked, such as, how many cars constitute a comeback? And also, can technical problems be solved? Will a sufficient number of people want the cars? To these last two questions, steam men will answer "yes", and as for the number required, probably even one brand-new steamer would be hailed as a comeback. And so, naive or not, steam men, cogitating new steam developments, look forward optimistically to Spring.

The STEAM AUTOMOBILE is published quarterly by and for the Steam Automobile Club of America, Inc., a non-profit organization dedicated to the preservation of steam car history, the restoration of antique steam cars, aiding the development of a modern steam car, and interesting the manufacturers in producing a modern steam car. The STEAM AUTOMOBILE will accept for publication suitable material dealing with subjects which fall within the above areas. Address all communications regarding editorial matter or advertisements to: Editor, The STEAM AUTOMOBILE, 1937 E. 71st St., Chicago, Illinois 60649. Include zip code number with all return addresses.



### OFFICERS

ROBERT L. LYON	President
R. A. GIBBS	Vice-president
A. W. LANDRY	Secretary

*The Steam Automobile*

# Letters

Dear Bob:

I enjoyed your letter. Bob, I really do appreciate your efforts. Maybe one of these days I'll be able to spend some time for **STEAM** which I was brought up on and in which I've never lost interest. Hope that 1967 will bring that steam car you've worked so hard for.

Sincerely,  
Charlie Bullen

Dear Sirs:

Keep up the good work. Were it not for your efforts there would be no Steam Club today.

Glendale, Calif.

Dear Sir:

Am really very grateful for all you have done and are doing for the Club. I'm sure all the members feel the same way. Hope you will be able to carry on the good work. I don't think anything can take the place of steam.

Very truly yours,  
John S. Cannon

Mr. Lyon:

Thank you for your efforts on behalf of the membership of the club. While I have no steam apparatus with which to tinker, I do have considerable interest in new and old steam autos. I have found the magazine to be a source of valuable information in What's Doing in Steam, and look forward to each issue, eagerly. Again, I'd like to express my appreciation for your special attention to advancement of our special interest — STEAM.

Yours truly,  
Patrick McNulty

Dear Bob:

Just a vote of confidence and appreciation for your efforts in behalf of the Club in any schism. Best wishes!

Carl E. Barrett  
New York

Dear Sirs:

Enclosed is my renewal to your wonderful magazine. Would have liked to have been able to attend one of the meets, but so far there hasn't been one close enough. My ambition has been to pick up a unit that I could rebuild and build the body for.

Best wishes.

S. George Barker  
Saskatchewan, Canada

Dear Bob:

I am not aware of what may have caused you to write the letter enclosed with the dues notice. I assume there has been some criticism somewhere along the line.

For my part I want you to know I fully appreciate

the effort you have put forth in time and money to keep this club going. I am quite sure that without your efforts the club would have folded long ago.

Sincerely,  
Al Reynolds

Mr. Roy Ferrier, Chairman,  
Western Region, SACA

Dear Mr. Ferrier:

Nov. 28, 1966

It was with pleasure that I received my copy of the resolution urging strengthening of the SACA and the magazine, Steam Automobile.

As a publisher of a weekly newspaper and a monthly tourist-oriented tabloid, I am aware of some of the problems in publishing which are not apparent to the subscriber. At the same time I am aware of the pitfalls of hobby groups, particularly the tendency to become socially rather than hobby oriented. It is something that must be fought continuously by those interested in the creation of (in our case) successful innovations in steam engines.

I have always sincerely regretted the "split" which sent several members out of the group. Their enthusiasm and knowledge could both be of great benefit to SACA . . . and there isn't room for two strong magazines. However, I feel it is impatience with the items mentioned in your letter that caused this to occur.

Many of us of the hobby are not competent to work on the same level of yourself nor on the scale of some of the wealthier ones, but our little 10-20-30 horsepower rigs are dear to our hearts . . . Busy men find little time to write and knowledgeable men don't realize the importance of "kindergarten articles" . . . nor do antique lovers have any respect for our compressor, IC or outboard conversions. (I for one, respect their efforts but find it improbable that I will ever have the wherewithal to own an antique).

I would dearly love detailed descriptions of the individual components of, for example, the Frostline buggy illustrated in the last issue, and other home-made vehicles, so that I might have a base on which to consider my ideas for improvement. If I succeed in my aim of partial retirement, I hope to be able to visit the Los Angeles area and offer my help.

Best of luck to you in your chairmanship.

Sincerely,  
Allen D. Reed, Oregon

Dear Bob:

January 9, 1967

Enclosed is my check for my dues.

I want to thank you taking the bull by the horns, to remedy the mess caused by a very few members who must be power mad, trying to kill our wonderful club, or to eliminate those of us who are interested in a modern steam car. I hope this will be the end of trouble, so we can enjoy our meets.

The San Diego meet for the most part was very enjoyable, possibly due to the extra energy and the true loyalty of Hyden Taliaferro and his helpers. My wife

(Continued on Page 15)



# 4 *Bill's* "POTATO STEAMER"

**ONE  
MAN'S  
ANSWER  
TO:  
"- WISH  
I HAD A  
STEAMER-"**

By William J. French  
photos by the author



Mr. French entering his "Potato Steamer". Photo taken in Posen Potato Festival Parade. Note 70 PSI steam on gauge.

The chassis of my car is a Crosley in which I cut the differential housing open, in order to use a chain drive, and put on a sprocket instead of a ring gear. Using the rest of the frame and four wheel brakes gave me a good start.

Next, I mounted a  $2\frac{1}{2} \times 3\frac{1}{2}$ " double cylinder car engine and hooked it directly to the axle with a roller chain at a  $2\frac{1}{2}$  to 1 ratio.

By then, I had my boiler built to my own design. You will note in the picture how I put it together. I used 11 114" tubes 18" long on each side welded to a  $1\frac{1}{4}$ " pipe 21" long, top and bottom, and welded connections to the side of the tank which was made from the bottom end of a large oxygen cylinder, which I cut 21" long also; then, welded a plate in where you see the water glass. I also had about 30 foot of  $\frac{1}{2}$ " pipe coiled between the 2 side sections, which was connected across the bottom at back, too, for circulation of water.

I then put it to a cold water test of 300 lbs., which proved to be O.K., so I enclosed it with a steel jacket lined with asbestos.

The boiler held 5 gallons of water at half-glass and I could get steam in 7 minutes, using bottled gas for fuel. The burners were like gas stove oven burners with 3 units, and control valve was near the steering wheel, easy to operate.

I set the safety valve at 105 lbs. Forty lbs. would run the car, but 80 to 100 lbs. was a lot better. My top speed was 20 miles per hour. The exhaust of the engine was piped through a 12 gallon water tank to heat the water and this pipe was about 14 of a tank from the bottom. You see, by the time I used water that low, it was nearly too warm for the pump to operate good.

Twelve gallons of water would last about 3 hours and 25 lbs. of bottled gas would last the same amount of time.

The engine had a cross head water pump and an oil pump for cylinders. I also had a hand pump if I needed it.

Fire box end of the converted Crosley steamer.



*The Steam Automobile*





Mr. French in the Crosley in front of his shop. Weight of this car is 1150 lbs. — it will do 20 MPH. Note the headlight, an oil-burning lamp from an 1899 auto.

The 3-wheeler hitched up for towing.

The little car had 3 whistles and handled just like a locomotive. The reverse lever, the throttle and water valve, as well as the gas was easy to operate. Everything was manual control — NO automatics.

I wanted something to drive and operate. It was a pleasure just to notice the water steam and do a bit of adjusting once in a while. I had lots of time to greet and wave at people while driving through parades. But I liked to drive it better without the top on. When I was in a parade at Traverse City, at their Cherry Festival, some people said it must run on an electric battery because it didn't make any noise. But the whistles surely did.

Last June, due to ill health, I sold this car to a man in Holly, Michigan, but after recovering, I started another.

I acquired a flueless boiler and a mill-type engine 2" bore and 4½" stroke. Had to make a reverse, which I did. I then started with a 3 wheeler in mind, so I could just take off the one wheel and put on a hitch and tow it anywhere. I made the frame out of pipe, mounted boiler and engine, and also the transmission, a water tank and a coal bunker, plus a few trimmings, and I was ready for the Posen Potato Festival Parade. I used some old Norway pine knots and some coal. The old timers like to smell pine and a little steam oil mixed.

I used a U. S. injector on this rig, and everything worked fine. My picture was in the Alpena News and also in the Detroit News Sunday paper of October 10, 1965.

Some people liked it better than the Crosley because they could see everything working, but it didn't handle as easily with only one cylinder.



A friend of Mr. French's boarding the 3-wheeler. This machine weighs 1550 lbs., will do about 12 MPH on 90 lbs. of steam.



1966



# KEEP 'EM STEAMING



## SETTING THE VALVES ON THE MODEL 735 ENGINE

(Reprinted from the Stanley Dealer  
Bulletin for May 18, 1922)

The model 735 engines starting with engine #2098 have the valves marked 735 and are stamped with an arrow which points to the front of the car when they are properly installed.

Before setting the valves, see that the engine is hooked up with one of the cranks on center. Clamp the hook-up dog to the quadrant to prevent it from slipping out when turning the engine over. On the side of the engine where the crank is on center, there should be  $2\frac{5}{16}$ " distance from the center of the link hanger rod pin to the center of the link block pin. In case this distance varies, it will be necessary to bend the hook-up quadrant either forward or back to make the distance between these points  $2\frac{5}{16}$ ". This determines the proper amount of hook-up. Check up both sides and be sure that they are practically the same.

The valves are set by the maximum port opening and not by the amount of lead. In revolving the crank, always turn the engine the same way as it turns in the car while going forward.

Set the valve to admit steam to the front end of the cylinder when the crank is in a position over the forward center  $4\frac{9}{16}$ " measuring from the center of the crank pin to the top edge of the top frame rod, as the engine sets in the vise. This operation is necessary for the setting of each valve.

After the engine has been hooked up and the cranks properly set, the valve stem can be turned so as to give the maximum port opening on the front end of the valve .100" opening.

When this setting is obtained, the opening at the rear of the valve should be approximately .140" which is correct for the rear, though it can vary slightly. In this position, with the valves properly set, the lead when hooked up from dead center should be approximately .040" at the head end, and .085" on the crank end. Both valves should be set at the head end only and by the maximum port opening. The usual method to handle the engine for repair work, especially valve setting, is to turn it bottom side up and set it in a vise, and by removing the steam chest cover, this will give free access to the valves. □

## SPECIAL STEAM SESSION

Philadelphia, February 18, 1967

By R. L. Lyon

As a result of many letters and phone calls to Steam Automobile Club Headquarters a special steam session was held at the Bellevue-Stratford Hotel in Philadelphia, concurrent with a regular AACA meeting.

AACA members who also belong to SACA (or who are merely interested in steam) as well as several SACA members, attended the session and derived both pleasure and useful information from the several talks given. Those who are restoring antiques got useful pointers in maintaining authenticity in their machines, while of more general interest were the talks on modern steam.

Earle S. Eckel gave very thorough instruction on various types of pumps and the year and model to which each belongs. He gave similar information, as well, on steam and fuel automatics, and showed examples of them. Gauges were given consideration too, along with the names and addresses of places that would authentically restore them.

Richard W. French gave full instructions on building and refueling Stanley boilers, including specifications for the materials required and other details. He also displayed a complete set of tools for doing the work. Of special interest in his talk was a new method of **rolling** in the flues, rather than swaging them in, as has been the usual way. The materials making up the equipment for rolling in the flues were, for the most part, obtained from military surplus stores. The rollers alone were new — the electric motor, flexible shaft and other items were all surplus. On the flexible shaft incidentally, was a clutch which he had himself designed and made. To this, was attached the roller fitted with a depth stop. The clutch was adjustable so that the tube would not be over expanded, nor could the roller stick in the tube and damage the boiler plate.

R. A. Gibbs and Thomas A. Hosick of North Carolina spoke on their many experiments with check valves and water pumps. They also displayed a modern water pump they have designed, which can replace the original pumps of steam cars should authentic pumps become unavailable. It can also be used for other pumping applications. In the afternoon they showed slides of their modern steam power plant and said they expected to have the complete chassis to demonstrate at the steam meet at Greensboro, North Carolina May 5-6-7, 1967.

The Williams brothers of Ambler, Pennsylvania, described at length the two day smog test given their modern steamer at a major oil company test plant in New Jersey. Further details on this will be found in an article on the next page.

*The Steam Automobile*



# LOW SMOG OUTPUT

## SHOWN BY WILLIAMS STEAMER IN TEST

Steam car owners have always known that their cars do not produce the variety of fumes that an internal combustion-driven cars do. But this never seemed really important, except esthetically, considering the immensity of the atmosphere into which the waste gases could be diffused. That this supposition was false, has been emphatically underlined by the growing smog problem in densely populated areas, particularly where climatic conditions have occasionally permitted contaminants in the atmosphere to rise to acute and intolerable levels.

Research into the causes of, and possible cures for, smog has therefore become a very active field of inquiry, and those involved are exploring every likely avenue. So at last, and quite possibly for the very first time, a series of tests has been run making a direct comparison between the smog output of a steam-powered automobile and an I.C. automobile.

The tests were run at the Mobil Oil Company testing laboratory, Paulsboro, N. J., at the request of one of the worlds largest automobile manufacturers. The two cars tested were a 1966, 6-cylinder sedan produced by the manufacturer mentioned (who desires to remain anonymous for the present) and the Williams 4-cylinder steamer. The Williams car was the same one that has been seen at several SACA meets, and ridden in by many SACA members.

The tests, run in January, required two complete 8-hour days for their completion, being what are called the California Cycle Test, and the Federal Smog Test. It should be pointed out that these tests are not merely a matter of placing an engine on a test block and attaching a few instruments, as one might suppose. Complete vehicles are used. The car is placed on a device called a General Electric Chassis Dynamometer, the rear wheels running on a four foot diameter drum. The drum is connected to an electric dynamometer recording the actual horsepower output of the car at the surface of the tires, where they bear against the road. Speed is measured by means of a fifth wheel running against the drum, the car's speedometer not being relied upon. The complete rig, car and all, is enclosed in an air-conditioned room. Any climatic condition can be duplicated. Air flows through the room, against the front end of the car, at a velocity corresponding to the indicated road speed. Braking effort can be applied to the drum to simulate the load conditions of a hill-climbing. Instruments measure and record all engine and combustion conditions.

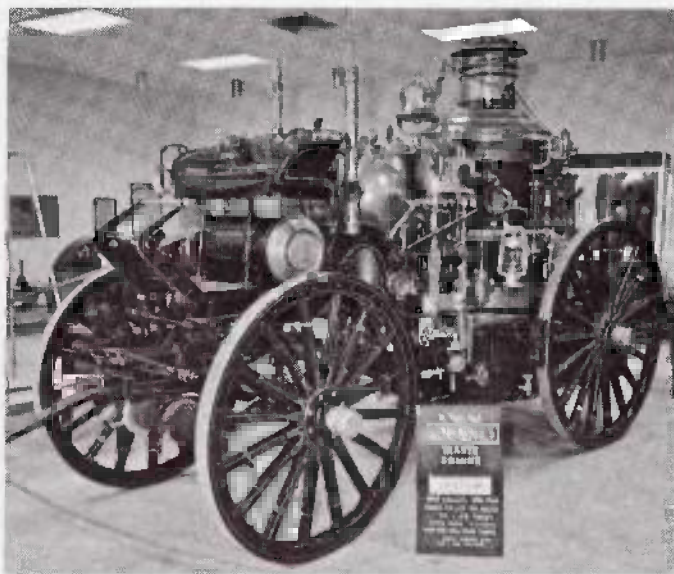
The results of these tests were spectacular. The Williams steamer not only produced fewer contaminants than the I.C. car, which was fitted with a smog-suppressing device, but the margin between the two was so great as to make it appear doubtful that an I.C. car can ever equal a steamer in this particular. An ordinary I.C. car, without a smog-suppressor, emits from 800 to 1,000 parts per million of hydrocarbons (among other contaminants) in its exhaust. With a suppressor, hydrocarbon emission can be brought down to about 275 ppm, the figure reached by the 6-cylinder test car.

Hydrocarbon output of the Williams car, however, varied between 30 and 40 ppm in the test. The 275 ppm reached by the I.C. car is just barely at the level which will be permitted by Federal law in 1968 on new cars. But the state of California, where smog conditions are the worst, will require that new cars emit no more than 170 ppm, by 1970. This leaves I.C. engine builders with a serious, and as yet unsolved, problem. On the other hand, according to the Williams brothers, performance of their steamer, in regard to smog production, can be made even better than it was in the test.

The emission of contaminants other than hydrocarbons, and other performance characteristics of the two cars, were also measured in these tests.

At this writing, complete data is not at hand, but it is expected that these figures will be made available for publication in the near future. When they are, a complete report will be prepared for readers of the Steam Automobile.

Mr. and Mrs. Earle Eckel, vacationing in Florida, sent this post card picturing a 1906 American La France fire engine, which is in a museum at the Edison Winter Home in Fort Meyers, Florida. Earle has his own museum back in Washington, New Jersey, and has an engine almost exactly like this one in it, among many other steam items.





# OUT OF THE ARCHIVES

Reprinted from the September, 1907 issue of "The Steam Motor Journal"

## THE SIMPLEX ROTARY STEAM ENGINE

There has been invented, and just perfected, a wonderful improvement in steam engines. This is a perfect high and low pressure, full expansion, steam tight, reversible, easily and positively adjustable rotary steam engine. The engine will be known as the Simplex Rotary Steam Engine, and is the invention of Mr. Peter English, of Colorado, who has devoted a great deal of time, energy and mechanical skill to solving the problem of this very desirable new principle in the application of steam as a motive power. The engine is owned and controlled by the Simplex Engine Co., with offices at 423 Commonwealth Building, Denver, Colorado. Many have tried and failed in their efforts to bring out a rotary steam engine which was a success, the objections being that it was impossible to compensate for wear and produce a steam tight engine with wearing surfaces reduced to a minimum and also a method of giving support for the steam in its back pressure when undergoing expansion.

In the new rotary steam engine compensation for wear has been allowed for, and by a simple adjustment of a screw may be taken up. Heretofore, other forms of rotary steam engines showed excellent results when new, but their life was very short, for as soon as a little wear took place they were no longer steam tight, and the engine became useless. These things have all been overcome in the Simplex Rotary Steam Engine, and in a very simple way. When one understands how it is done you wonder why some American genius has not accomplished the same result before. In the construction of this rotary engine it is perfectly steam tight at all points, and maintained so by means of positively adjustable parts. There are no friction wearing surfaces to cause loss of power, and their claim is that friction is reduced to only 3.17 per cent in the simplex as against 11 per cent in the reciprocating engine. There are no dead centres, no gears, and only few moving parts, being only 3, and an engine of high horse power occupies a very little space, much less than that of the reciprocating engine of the same power. This is one of its great advantages as an automobile and marine engine. It is simple, and the cost of construction will be much less than the ordinary reciprocating engine.

In its operation there is no vibration, as all the parts are perfectly balanced. It runs in a perfectly true circle, and can be operated from 10 to 4,000 revolutions per minute, being noiseless in its operation. Another of its many good points is that steam can be used expansively and as efficiently as in the best type of a reciprocating engine. It is reversible instantly at any speed without injury to the engine. It can be operated with either steam, compressed air, or water. It can be also used as a pump for any kind of liquid;

also as an air compressor or pressure blower. Lubrication of the engine is supplied from one oil cup.

In explanation of the outline cuts of the Simplex Engine shown herewith, Fig. 1 represents a sectional view of the engine, side and end elevations, the right hand illustration in Fig. 1 being the end view, while the left hand illustration is the side view. Fig. 2 also represents a sectional view of the engine, showing the side and end elevations, the right hand illustration in Fig. 2 being the side view, while the left hand illustration in Fig. 2 shows the end view. In Fig. 2 the cut represents a non-reversible engine. This engine is made for stationary purposes, to work without reversing, but the method of reversing is shown in the end view of Fig. 1, and will be explained below. Fig. 1 represents the engine with automatic and reversible valve, which is marked 5, 6, 7 and 8 in the left hand illustration. 5 represents the steam port in valve; 6 represents the exhaust port in the valve; 7 represents the steam inlet; and 8 represents the exhaust outlet. To reverse the engine you simply reverse the valve so as to throw steam into port 4 instead of port 3. This is shown in the right hand illustration of Fig. 1. In other words, the inlet port, which is marked 3 in the right hand illustration of Fig. 1, becomes the exhaust port, and 4 in the same figure becomes the inlet port. In Fig. 2, the left hand illustration, 1 represents a cylinder with the cover removed; 3 represents a steam space between the drum and cylinder; 2 represents a drum in the cylinder which revolves; 4 represents the steam inlet, and 7 represents a cut-off valve to cut off the steam automatically, which is controlled by an automatic governor in a fly-wheel; 12 represents one of the two wings which is mounted exactly in the center of the cylinder of the shaft 3c, the shaft being stationary. 13 is a shoe, which is fitted on the end of 12 with a spring behind it which takes up the wear in the cylinder, and this always keeps it steam tight. It acts like the piston ring does in an ordinary engine. 6 is the exhaust port.

Referring to the right hand illustration in Fig. 2, 4-1 represents the drum in working position inside the cylinder, and 4-A represents a false cover screwed in the main cover, which has a gear cut around the outside, with which a pinion is connected, 2-B, with plate 4-A. When the pinion is revolved to the left it moves the plate, 4-A, to the right, which unscrews it, therefore making the space in the cylinder shorter, hence taking up the wear. This is the method of adjustment to take up the wear in the cylinder and keep it steam tight. 5-D is a shaft, which is connected permanently to the drum, 4-1, which revolves, and it is from this shaft that the power is transmitted.

Again referring to the left hand illustration in Fig. 2, 9 is a set-screw, which sets up under a plate under the cylinder, this plate being adjustable and coming in contact with the drum, 2, and by adjustment of this screw wear is taken up, and is always kept steam tight. It will be noticed that the steam when it enters the inlet port and begins to expand, must press for-



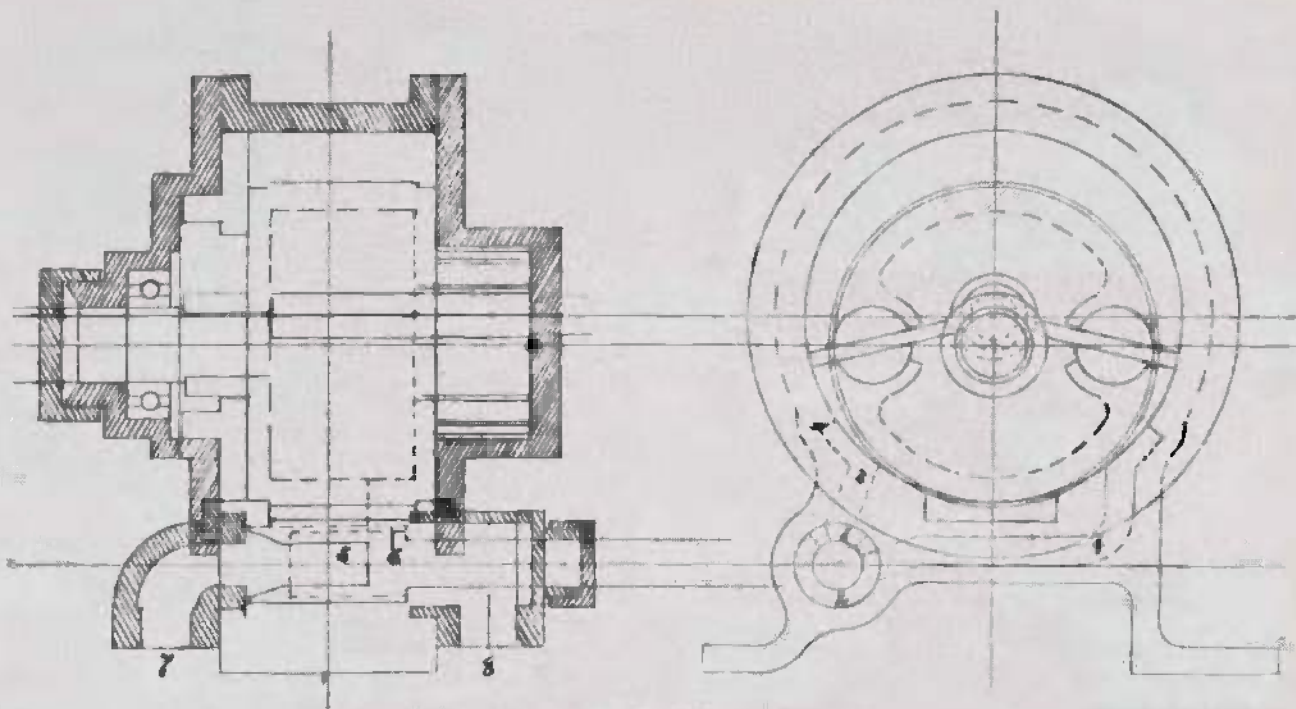


Figure 1

ward against one of the wings, 12, as it cannot pass backwards, there being a steam tight contact between the drum and the above mentioned plate. This is accomplished by a very simple and easy method, the drum being set below the inner surface of the cylinder, yet revolving in a true circle continuously, and when wear takes place this lower plate can be adjusted to the set screw 9.9I is a shaft which connects the valve with the eccentric.

Referring again to the right hand illustration in Fig. 2, 9 is a shaft which connects the valve with the eccentric. 8H represents a bearing on the end of the drum 4I.

As a commercial proposition, the Simplex Turbine must prove a great success. There is a specialty field for such an engine, where economy of space, weight and lack of vibration is very much desired, and very many users of engines appreciating this advantage have already placed their orders, and the company is flooded with inquiries regarding the relative merits of the engine by every mail, proving beyond doubt that it will keep a very large factory and a very large corps of men busy to supply these engines for special fields of operation. They are not, however, confined to any one special field, but, in-

(Continued on next Page)

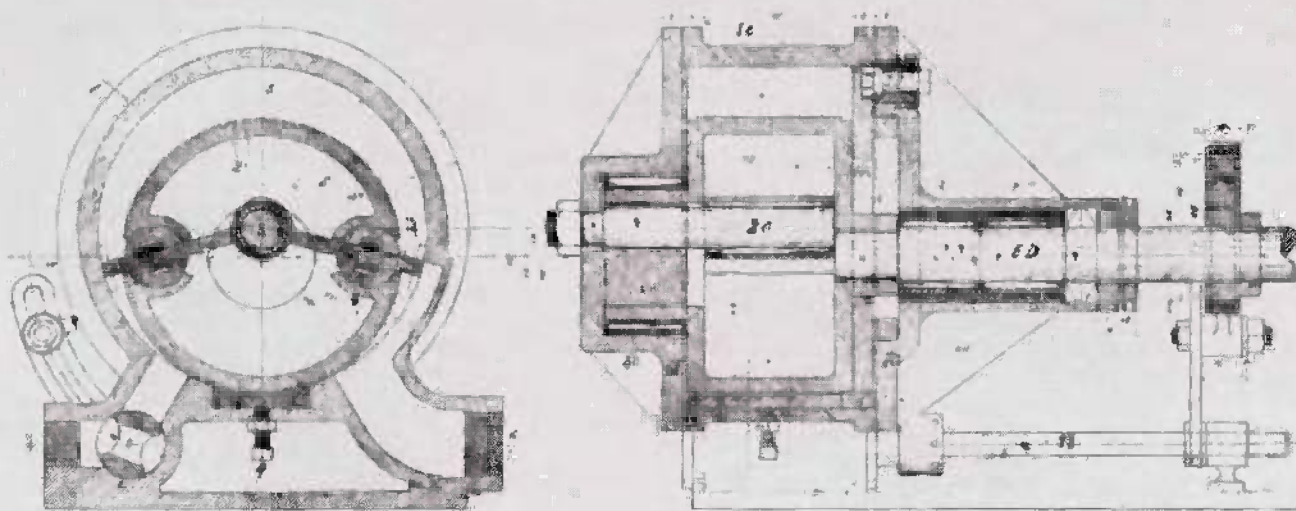


Figure 2



tend to manufacture for the steam trade in general. The cheapness of construction, saving in freight, and saving of expensive foundations which are necessary for the heavy vibrating engines, would naturally give the Simplex Turbine a preference over other engines to all users of steam.

A person may make a comparison of this engine with other steam engines when we state that a 100 horsepower engine of this type is only 24 inches in diameter and 12 inches in width. This may easily be compared in the mind's eye with a 100 horsepower reciprocating engine of the ordinary type, and it will be discovered that this new engine is really smaller than the cylinders of the reciprocating engine of the same power. Then consider also that there are only three parts to this engine, and that the motion is in a true circle, no vibration, but a continuous rotary movement, thereby saving power, wear and tear.

The writer has observed the operation of the engine in actual use. A small engine of 20 horsepower is now on demonstration at the Albany Hotel, Denver, Colo., running a dynamo generating 150 lights. This little engine is about 8 inches in diameter, and is being visited by a great many people, and all express their amazement at so much power being confined in such a small space. An order has been placed by the company for four 100 horsepower engines for demonstration purposes, and as soon as these are fully tested they will start to manufacturing engines in hundred lots, and expect inside of six months to have a manufacturing plant in Denver of considerable magnitude.

The H. A. Trenholm Investment Co., Suite 222 Equitable Building, Denver, after careful investigation, have fully convinced themselves of the merits of this invention, and as their business consists in financing meritorious inventions they undertook to float the stock of this concern, and have been engaged in a sale of the stock. The new company is incorporated under the laws of Colorado, with a capitalization of 500,000 shares, \$10.00 per share par. The stock is at present selling at 40 cents per share, and the

moneys received from the sale of this stock will be used to install machinery in a factory under lease, and every effort will be used, together with careful and judicious management, to make a commercial success of this new invention. Other factories will be started in other portions of the country, and Denver is to be congratulated upon having the main factory.

The many advantageous features embodied in the Simplex Turbine Engine have been demonstrated by examination and tests by some of the best engineers and mechanics in the United States. Below we give a test made by Mr. Robert Hinchliffe, M. E., of South Side Elevated Railroad, Chicago, together with a test of the reciprocating engine of ordinary type:

The cylinder is 12" in diameter by 9" long. In the cylinder is drum  $9\frac{1}{2}$ " in diameter by 9" long, which is set eccentrically to the cylinder. One has only to examine the working parts to satisfy himself that the great stumbling block of the inventors of keeping the engine steam tight, has been satisfactorily solved.

#### *Dimensions, Etc.*

Revolutions of engine, per minute	350
Speed of brake pulley, per minute	100
Length of brake lever	4'-0"
Diameter of brake pulley	4'-0"
Diameter of engine pulley	1'-2"
Weight on brake	100 lbs.
Speed of brake pulley, per min.	1256 ft.
Power developed at brake	7.6 H.P.
Water Condensed, exhaust	140 lbs.
Water — per brake H.P. per hour	55.2
Duration of test	20 min.

#### *A Reciprocating Engine of the Ordinary Type*

With common slide valve, cutting off at about  $\frac{4}{5}$  of the stroke was then attached to the prony brake for purpose of comparison, under the same load:

Revolutions of brake pulley, per min.	100
Weight on brake	100 lbs.
Power developed at brake	7.6 H.P.
Water condensed — exhaust	161 lbs.
Water per brake H.P. per hour	63.5 lbs.
Duration of test	20 min.

---

Reprinted from the October, 1907 issue of "The Steam Motor Journal"

Spring suspension is a much mooted question and there are varieties of springs innumerable. The end attained with all of them is subserved, that of absorbing and counter-acting jars and cumulated vibrations incident to rough roads and high speed, although some of them serve the purpose better than others. Motor car springs must be able to resist the annoying and destructive effects of the highways, inevitably irregular as to resistance and other conditions of surface; therefore, the springs must be such as to promote comfort and prevent undue wear and tear on the mechanism, and the old full elliptic springs of good length seem to fill the bill about as well as anything

yet devised. With a long spring and one which is very resilient, and protected by some good shock absorbing device to prevent breakage and sudden shocks, they are hard to beat.

It is a notable fact that steamers are gaining in popular favor, and it is very common to hear a gas car owner remark that he is going to sell his gas car and buy a steamer, as it costs too much to keep up the gas machine. Why not do the wise thing and buy a steamer in the first place? This style of car lasts longer and costs less to keep up, to say nothing of the fact that its first cost is much less.



# ERRATA FOR:

## THERMODYNAMICS, PART IV

(originally published in the Spring 1966, issue of  
The Steam Automobile.)

By Thomas A. Hosick

The article referred to in the title above contained a series of formulas for calculations to be used in steam engine design. These formulas all were in typographical error. The corrected equations follow.

Term abbreviations used were:

- B = Cylinder bore in inches
- B.Pr. = Boiler pressure in psig.
- D = Piston displacement of engine in cu. in.
- d = Driver diameter in inches
- hp. = Horsepower
- hr. = Hour(s)
- log = Logarithm (base 10) (Look up in log tables)
- MBP = Mean back pressure in cyl. in psia.
- MEP = Mean effective pressure in psi., which is MFP — MBP
- MFP = Mean forward pressure in psia.
- Ms = Overall steam rate of engine in lb./hr.
- N = Factor of 1 for single-acting pistons; 2 for double-acting pistons
- P = Steam chest pressure in psia.
- Psi. = Lbs./sq. in.
- Psia. = Psi. absolute
- Psig. = Psi. gage (Psia.—14.7)
- R = Ratio of expansion =  $\frac{100}{\% \text{ cut-off}}$
- rpm. = Revolutions per minute
- S = Stroke of piston in inches
- T = Torque in lb.-ft.
- T.E. = Locomotive tractive effort in lbs.
- v = Specific volume of feed steam in cu. ft./lb. (Look up in Mechanical Engineering Handbook)
- W.R. = Water rate (Specific steam rate) in lb./hp.-hr.

### Errata for Page 20

The accepted formula for calculating the tractive effort (pulling force on rails) of a conventional two-cylinder, double-acting steam locomotive is:

$$T.E. = \frac{(0.85) (B.Pr.) (B)^2 (S)}{(d)}$$

This formula can be converted to a torque formula by setting the diameter at 24, allowing the equation to be used for calculating the maximum torque for Stanley or similar engines.

$$T = \frac{(0.85) (B.Pr.) (B)^2 (S)}{24} = \frac{(B.Pr.) (B)^2 (S)}{28.2}$$

The above formulas are for maximum cut-offs. For single-acting engines operating at any cut-off, the torque contributed by each cylinder is:

$$T = \frac{(MEP) (B)^2 (S)}{112.8}$$

To find the mean effective pressure, MEP:

$$MEP = P \frac{1 + 2.303 \log R}{R} - \text{Exhaust Pr., psia.}$$

### Errata for Page 21

At the end of the first paragraph: Table I gives values of  $\frac{1 + 2.303 \log R}{R}$  for various values of per cent cut-off.

To figure torque from engine displacement:

$$T = \frac{(N) (MEP) (D)}{88.6}$$

Power is given by the formula:

$$hp. = \frac{(T) (rpm.)}{5250}$$

To get power from considerations of displacement, rather than of torque:

$$hp. = \frac{(N) (MEP) (D) (rpm.)}{465,000}$$

Water rate is given by:

$$W.R. = \frac{16,150}{(MEP) (R) (v)}$$

### Errata for Page 22

Overall steam rate is given by the formula:

$$Ms = \frac{(N) (D) (rpm.)}{(28.8) (R) (v)}$$

The formula for MEP when correcting for back pressure is:

$$MEP = P \frac{1 + 2.303 \log R}{R} - MBP$$

The reader should refer to the original article for the proper conditions for use of the above equations. □

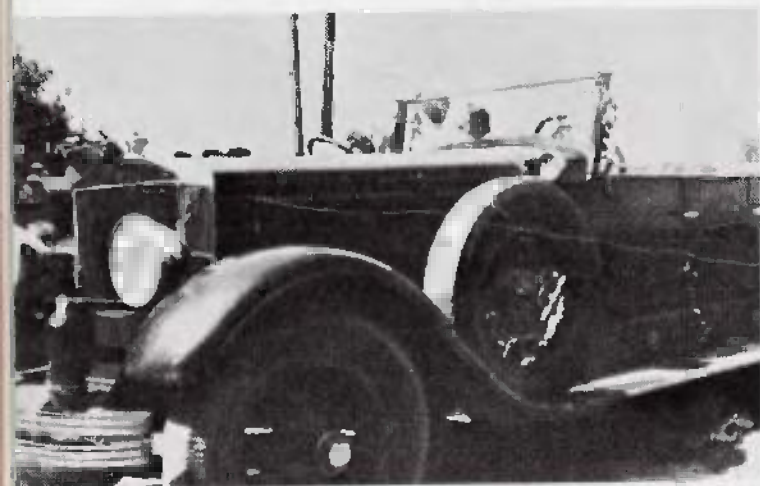
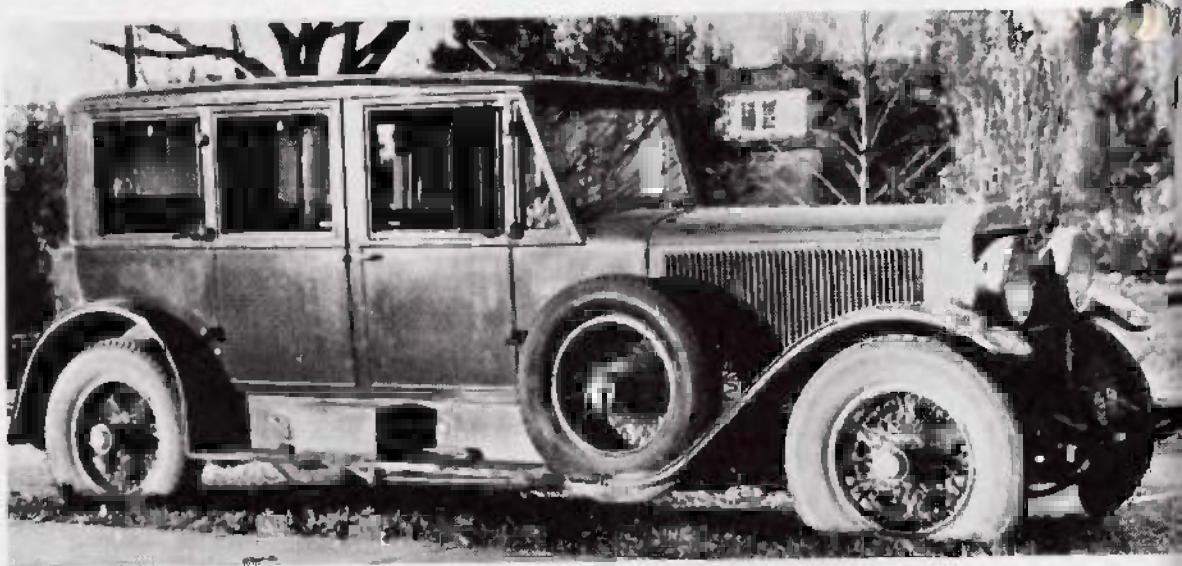


# MORE DOBLES

- Photos and caption material submitted by R. C. Hempel, of Kansas City

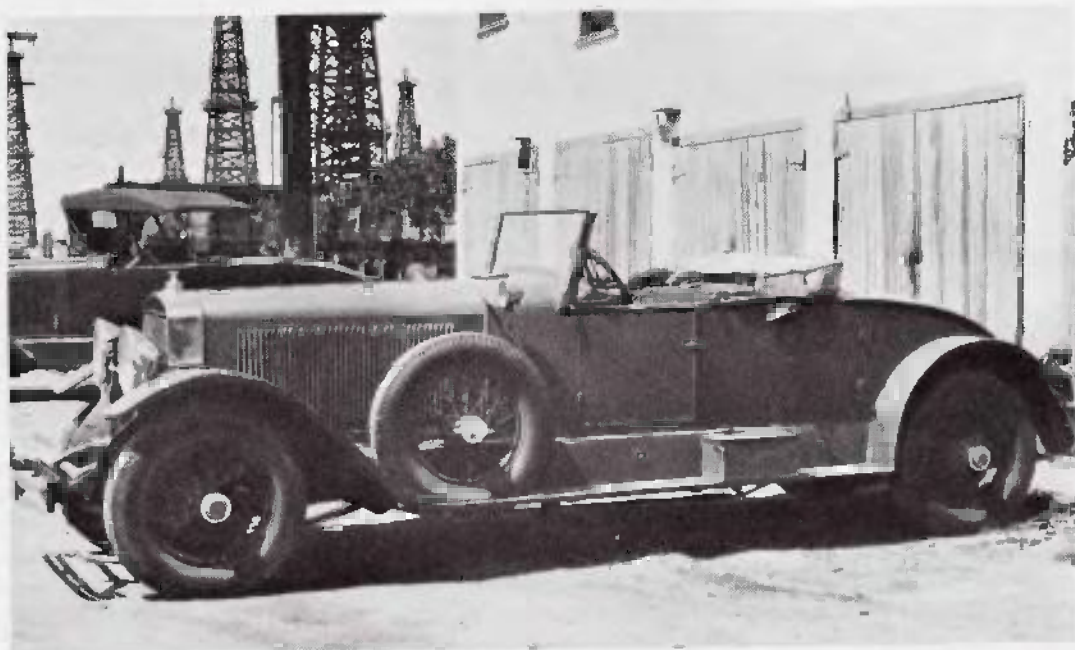
Doble E-18, photographed in June, 1965, at the home of the late E. O. Herman in Momence, Illinois. This beautiful car was modified slightly at the factory by the installation of 4 - wheel brakes, is otherwise in original, and superb condition. Originally owned by R. W. Hill (of coffee fame), this may be, thinks Mr. Hempel, the only surviving sedan.

(Two were built)



A much-cannibalized parts car, also now owned by Dean Spencer. The cars previous owner was the late John O'Donnell, who took the photo in 1946.

Doble E-22 stands in front of John O'Donnell's garage in 1950. Once belonging to Howard Hughes, this car was beautifully modified into a roadster, and is now owned by Dean Spencer, of Seattle.



*The Steam Automobile*



# ELLIPTOCLINE PROGRESS

By Thomas A. Hosick

It is hoped that an Elliptocline steam-engine-powered chassis will be ready for initial demonstration at the May meet of the Steam Automobile Club of America in Greensboro, North Carolina. The chassis is being fitted by fellow member Gene Matkins with the necessary components such as condenser, batteries, differential, a temporary transmission, and water and fuel tanks, in preparation for accepting the engine installation. Since our steam generator is not ready, a borrowed unit will be installed initially.

Progress continues on the Model XG-2000 Elliptocline steam engine, which has nine cylinders,  $2\frac{3}{8}$ " x  $2\frac{1}{2}$ " bore and stroke, eighteen pistons captured via ball-ended connecting rods, and 200 cu. in. displacement. The drive system between the inclined plates and the rotor has been the main problem to date. The stud drive seen at the last May meet has been abandoned due to an undesirable noise level. Presently, a constant velocity universal drive is in use, but even it has presented problems due to differential expansions arising from temperature changes. The drive is operating fairly well now, but still needs some modifications for durability.

Recently, the cardioid engine valve has been recontoured to give improved port openings at late cut-off and more extensive compression relief. A dial has been calibrated to indicate various cut-off positions of the control lever. This single valve now gives infinitely variable cut-off all the way from 4% to 80%, both forward and in reverse, and properly times these events, along with compression relief, for all nine cylinders.

With the new valve, the engine has been run only a few minutes at moderate pressures. It idled nicely at 25 rpm. at 80% cut-off. At moderate speeds, it runs more smoothly at 50% cut-off than at 80%. We set the speed at 72 rpm. and maximum cut-off and were able to shorten the cut-off to ten per cent, with the engine still running at reduced speed. At higher steam chest pressure, the engine was run at  $7\frac{1}{2}$  per cent cut-off. We have not yet raised the steam chest pressure and engine rpm high enough for the engine to run at 4% cut-off. The engine is self starting at 30% cut-off. These figures should not be construed as being indicative of the minimal values obtainable; they represent only what we were able to see during a very short and preliminary test.

One might wonder how a cut-off as short as four per cent is obtained. At this setting of the engine valve, lead becomes equal to cut-off, both being  $23^\circ$  from top dead center. Thus, the valve actually is open for  $46^\circ$  of the revolution, which is not an extreme condition. At such valve setting, the engine will run in either direction and depends upon mo-



Unique features of the Elliptocline can be seen in this action photo:

1. Rotating cylinder block.
2. Zone in which uniflow exhaust ports are uncovered.
3. Connecting rods, blurred by high rotational speed.
4. Stationary tilted cam surface.

mentum to carry it through the negative torque positions. No compression relief is in effect at the shortest cut-off positions.

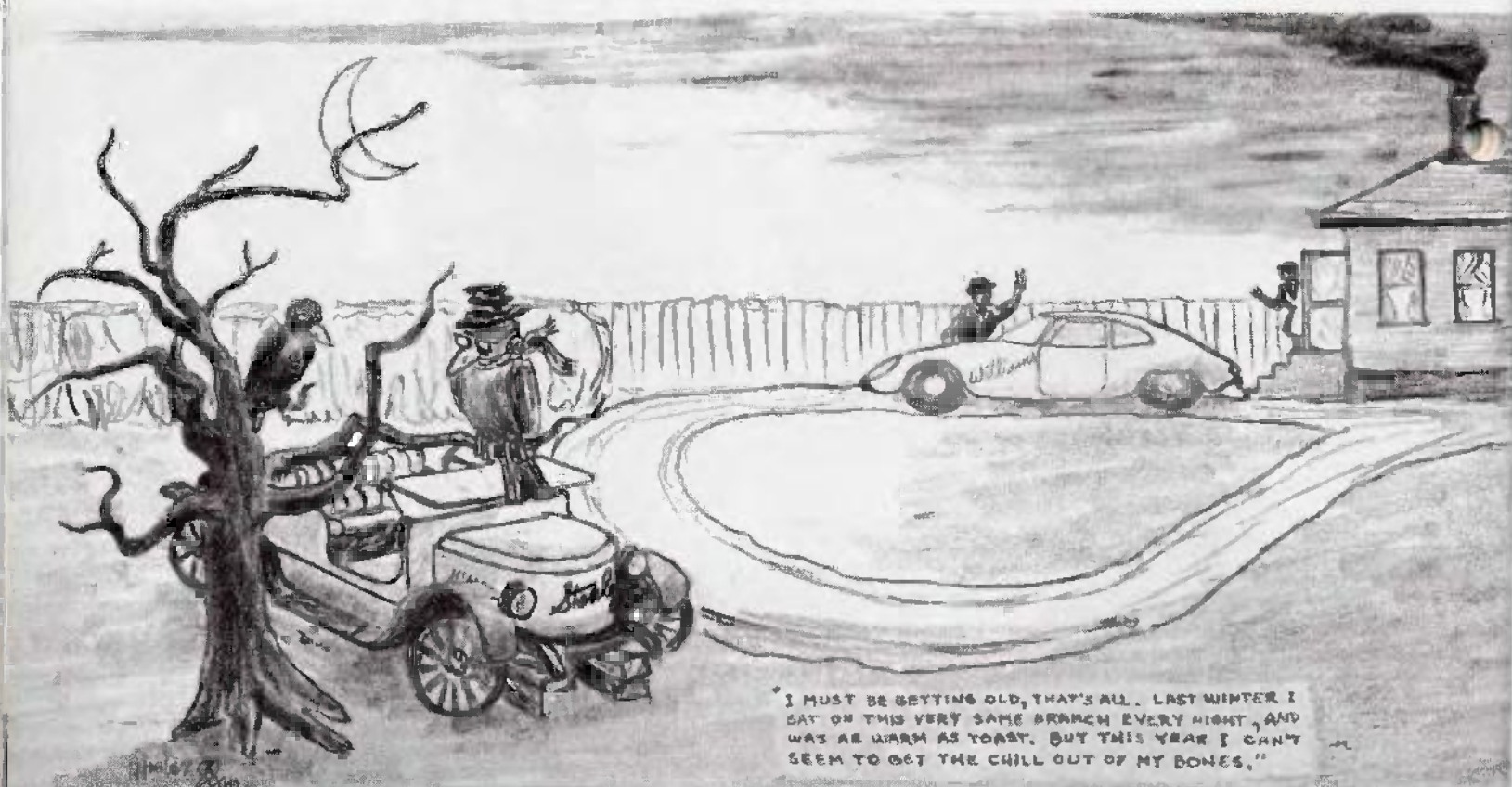
The accompanying photograph shows the Model No. XG-2000 Elliptocline steam engine being run with half of its split cover removed for observation. Exhaust is at the top and steam can be seen forcefully being ejected from the uniflow ports as they are uncovered by the pistons. The viewer should note that the inclined rotary member to which the connecting rods are attached does not wobble.

The Model No. XG-2000 engine is nominally rated at 1000 H.P. on 2000 psig. steam at 2900 rpm. The sister engine we plan to set up initially as a free piston engine with no connecting rods or drive system between the inclined plates and the rotor. This modification will change the displacement slightly, but we have not yet determined what the change will be. Since the Model Number is based on displacement, we have not set the new Model Number for this engine.

The cardioid valve is designed to give quick and full opening and closing of the admission ports with considerable lead at short cut-off settings for high speed running of the engine. At long cut-offs, the ports are not quite so fully open, which is acceptable for the slow engine speeds which should normally be used at such a setting. However, it is conceivable that racing interests would like full open ports at late cut-offs, such as 50 per cent, so that the engine could be overloaded at high speeds to develop 3000 to 4000 H.P. for drag racing. For this reason, a modified valve has been designed in which admission and cut-off are on two different levers, independently controlled, and the ports are fully open for virtually the full timing desired. Cut-off, however, would be step variable between limits, but the valve probably will have a wear pattern superior to that of the

(Continued on Page 18)





## OHIO REGION MEET

The Ohio Region had a luncheon get-together at the Akron-Medina Holiday Inn, Sunday, April 9, 1967, to discuss promotional plans for 1967, and to arrange the time and place of their Annual Meet. Plans for the program to be presented at the Meet were also discussed. After considering several possible locations, it was finally decided that the meet would again be held at the Green Meadows Country Inn at Worthington, Ohio (near Columbus) on September 15-16-17, 1967. This still seems to be the best in this area. The location is well known to the members, and the majority have found it easy to locate and drive to. It is also easily accessible by other modes of transportation. The grounds offer adequate space for displaying cars, and also for holding a Flea Market, which we expect will be an active feature of the Meet. (There are no fleas at a Flea Market, just old steam car parts, — probably the ones you've been looking for). It is also easy to get out to the back roads to drive without entering a main highway. Rooms at the motel, and other accommodations, have been satisfactory to those attending previous meets. The nearby Battelle Institute, with its supply of well informed speakers, is another attraction. At this coming meet we expect to have a speaker from the Institute who is well versed on the causes of and cure for smog. Sunday there will be a tour to an antique steam railroad and a street car museum.

Many at the luncheon were much interested in the modern steam cars that are being developed and a number are planning to attend the Greensboro meet in the hope of seeing the Williams Brothers newest steam power plant. The possibilities that Gibbs and Hosick will have their new engine ready for demonstration and that a new steamer will be driven to the Meet from the West Coast, were subjects for hopeful expectation.

As an index of the enthusiasm shown at this luncheon for the progress and activities of the Steam Automobile Club of America, Inc., the meeting, which started at 1:30, did not break up until 6 p.m. Nobody could get talked out.

## I. C. HEADACHES

Anyone who has ever watched a mechanic carve into the innards of an automatic transmission can appreciate why this sort of servicing is expensive. Repairing these elaborate mechanisms requires utmost skill. Today the biggest part of any car factory service manual concerns details of these transmissions. Among the maze of parts and "circuits" are the various valves. There's the high speed downshift timing valve, detent valves, a modulator limit valve and on some units a vacuum modulator stator control valve. And we haven't even mentioned the clutches, bands and other paraphernalia, all of which add to maintenance headaches.

(Submitted by Earle S. Eckel, Sr., of Washington, N. J.)

*The Steam Automobile*



(Continued from Page 3)

went with me this time for the full time and enjoyed herself very much due to the ladies friendliness, the accommodations, etc. She is ready to go again.

My several businesses and their nature seem to limit me to the number of meets I can attend.

Since I have built my own steam locomotive for my miniature railroad, I had hoped to build the steam engine for my own steam car, but since my time is so limited it seems I will have to have one built for me. I have been reserving one of my Hudsons to be my first steamer, however my wife has suggested that I convert a new Continental. In either case I would want a steamer with lots of reserve power for pickup and sustained speed under all conditions, since I would want to help convert other people to steam. My Continental weighs close to three tons. I have missed seeing and talking with you at the meets. I guess I have chosen the wrong meets lately.

In spite of my busy schedule I made a new commercial Christmas record album this past year that has received some very fine compliments. Now that I have the basic equipment to make master tapes, I hope to make more records as I find time, either under my own (AMCO) label or others.

Thanks again for holding the club in line.

Sincerely,

an SACA Member from the beginning

Dear Bob,

I have your form letter before me, and do not like some of the things I read between the lines. I know it is a tough job getting out a club publication, I could never do it, I would be side tracked all the time . . . When I get to it I will send some more stuff, mostly White Bulletins, for reproduction. I didn't realize you were stuck with the whole cost. The reproductions you were so generous as to send back to me with the originals are excellent indeed.

I would like to state again, as far as the engine itself goes, my complete belief that in one fell swoop, for so many obvious reasons, the Gibbs Hosick Elliptocline is IT. So engine wise at least, if I support any steam at all, this will be it.

I have started reading Ralph Nader Unsafe At Any Speed. Horrors and then some! I would like to take the mint Marmon Roosevelt 1930 now the pride and joy of a friend in Alabama, and let Ralphie pick the roads, and see what a fast, very easy steering, very easy starting, very flexible engine auto we once knew how to build (the cheapest smallest Marmon ever built). But I would be equally pleased to demonstrate the Doble such as the late Olney Herman owned for the same stunt. I wish we built them this way today . . . Don't forget the huge 4 day mid-August Steam Traction Engine meet at Canandaigua, New York, around 20 miles from Rochester. Bruce Kelley W2ICE, Main St., Holcomb, New York (Bruce works for Kodak in Rochester) 14469 is secretary of both the Antique Wireless Association and the New York Steam Engine Association and maybe you can join.

AWA is national but I dunno about NYSEA although I am a member.

Delayed but Merry Xmas and Happy New Year to you and yours.

Very sincerely,

Russell E. Worthy

AWA, AACA, HCCA, VMCCA, CCA, SACA, NYSEA, AUHV

J. M. of Massachusetts notes that the membership dues are "well worth \$10.00 any time" — and he enclosed his check for \$10.00.

OUR SINCERE THANKS TO HIM.

#### A NOTE TO THE READER

The letters above are but a small sampling of the many received at SACA headquarters relative to the ripple of unrest that has run through one sector of the Club. The unrest, by its contrast with these and the other letters received (some of which were rather salty), has disclosed a lack of comprehension, based probably on lack of information, of the growing pains besetting a thinly scattered organization operating on a limited budget.

Not the least of the problems has been the publication of the magazine itself, which undoubtedly represents the largest single expenditure. Starting in mimeographed form, as many readers will remember, it was changed several years ago to a standard magazine format. For a time the magazine was done on a justifying typewriter, but about a year ago the switch was made to typesetting. Color has been added and paper has been improved. Quality and quantity of illustrative material has risen, and efforts have been made to include in every issue a wide variety of interesting and informative articles.

Far from being a moneymaker, the magazine is almost pure outgo. Magazines that make money do so on their advertising, but there is a minimum size below which it is difficult to attract advertisers. Small magazines, therefore, can exist only by paring outlay to the bone. This has been done with the Steam Automobile, but at the same time the quality of the magazine has been kept as high as possible.

SACA is growing, and with its growth the magazine will prosper. We need, and will get, advertising, and with the expansion of the magazine it will be possible (and necessary) to add to the present tiny editorial staff, changing this work from a part time avocation to a full time occupation for some one.

That most SACA members understand these things is evident; it may be belaboring the issue to mention them at all, for they have been mentioned before, but repetition sometimes helps to clear the air. — EDITOR

Gentlemen:

I have always believed that the exhaust of a steam auto — open fire — is not as lethal as that of internal combustion engines ("blue" explosion). Perhaps you have some information on this? If this is true — steam cars would help with the "poison air" situation.

Always enjoy the publications.

R. A. Isenberg, Calif.

(Continued on Page 18)



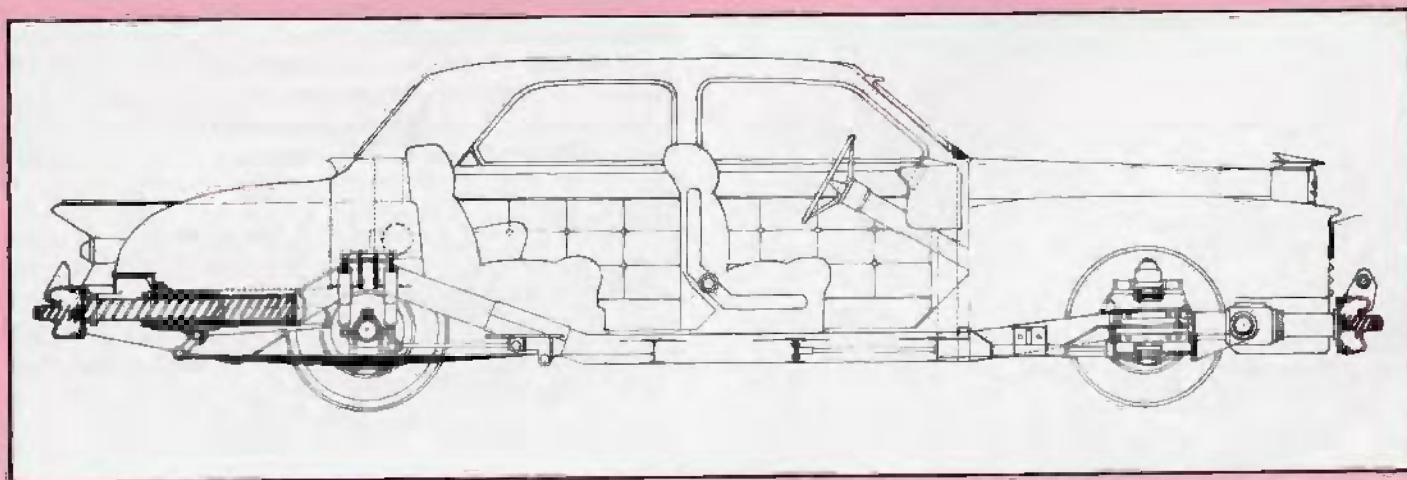


This beautiful drawing is an artist's representation of what a modern steam car might look like, it was submitted by Mr. W. D. Thompson, of San Diego, California. Mr. Thompson, a commercial artist, has done a lot of thinking not only about what such a car might look like, but also about the features it should have.

As he describes his concept, the car would be a high-priced luxury vehicle, incorporating many safety features. Quarter windows are eliminated, a concealed ventilating system doing the job instead. A television screen on the instrument panel would replace the usual rear view mirror. Power steering, air conditioning, power operated doors, seat belts, padded interior and double braking system are some of the other features the car would have.

The interior profile below shows the general layout as he conceives it, and a few of the mechanical features. Noticeable are the spring-loaded bumpers which Mr. Thompson believes would be helpful in absorbing shocks.

These illustrations show most persuasively that a steam automobile need not look like a locomotive, an image that seems to hang on in some quarters. Mr. Thompson is to be complimented on the attractive styling concept he has come up with.



*The Steam Automobile*



# TWO COMPOSITE STEAMERS

by SACA Members

Dear Mr. Lyon:

I have enclosed some pictures of the car I have made up, using a Stanley 740 engine and a 1948 Cadillac chassis. My main purpose is to try out a water tube boiler design of my own, which has been bothering me ever since I had my first Stanley in 1928. While the boiler is certainly oversized for appearances, I have always been curious to learn what the Stanley engine would do if it had ample steam. The boiler consists of two parts. Forty percent of the heating surface is boiler and sixty percent is economizer. I have made preliminary tests by firing with a 110 Volt domestic burner and used an electric motor driven spray pump for boiler feed water supply.

The most difficult part of the job was extending the Stanley axle with 56" tread to clear the Cadillac rear springs and to get 62½" tread to match the front wheels. Also, to adapt the Cadillac brakes to the Stanley axle.

The pictures will also show my shop which is pretty well equipped for just a hobby. I couldn't get anything much for the machinery in Detroit when I quit, so I moved it down here about 3 years ago. I only work a few hours a day, and not everyday, so the progress is slow.

I am only about 8 miles from Morris Frost and we visit back and forth.

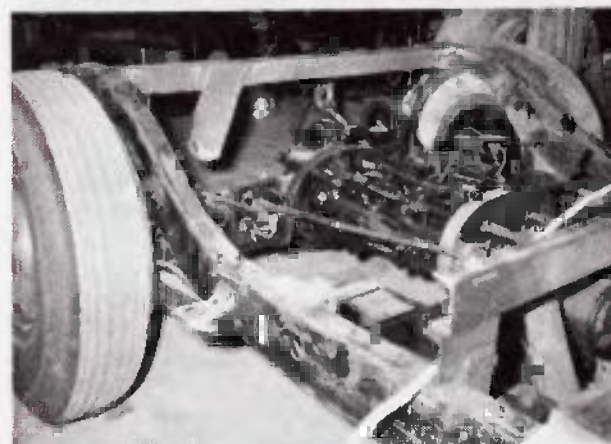
Thought this might be of passing interest.

Charles G. Harrison  
Jupiter, Fla.

**Top:** Mr. Harrison's 25' x 60' shop, equipped with lathes, drill presses, shaper, milling machine . . . Hara-Kiri, anyone?

**Middle:** The boiler installed. Note two water columns, one on boiler section, one on economizer.

**Right:** Widened Stanley rear end fitted to the Cadillac frame. Sharp eyes can see the pulley drive for the 60 amp. generator. Pumps will be 4 cyl., chain driven.



## HUGO KLUEVER'S "BEAST"

Dear Sir:

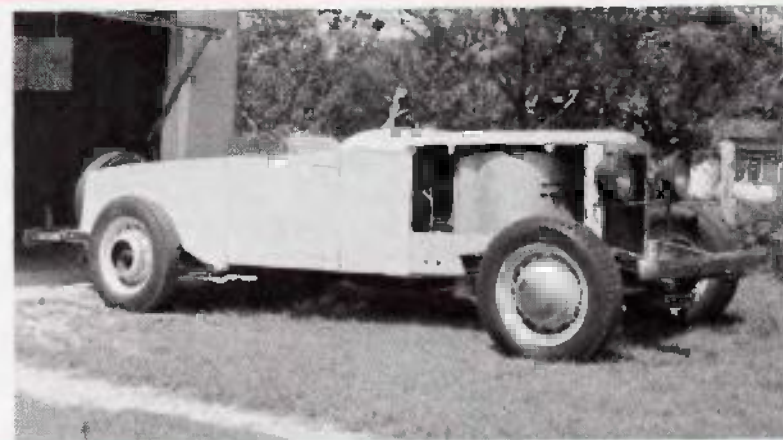
Enclosed is a money order for \$6.50, dues for a one year membership in Steam Automobile Club of America.

I have a steam car, a conglomeration of old and new parts, a Stanley engine, a Baker boiler, in a Chevy frame with Pontiac wheels, Ford tanks and Reo headlights, and a homebuilt plywood body. It runs, but good. I have received many valuable hints from the magazine.

Wishing you continued success with the club, I am

Very truly yours,  
Hugo Kluever

P.S. Enclosed please find a picture of the "Beast".



1966



(Continued from Page 15)

January 26, 1967

Dear Bob:

Thought that since the dues are due now, I have an opportunity to inform you of my steam affairs in the last half of the old year.

By now, you may already know that I have changed my Stanleys. I sold my 1921 Stanley Model 735B to Mr. Alvin King of Hesston, Kansas in November. He is now restoring it with the aid of Herb Ottaway for Mr. King's museum. I then got Ed Judge's '21 Stanley Model 735E. My new roadster is a really cute bird as it is somewhat restored with a water tube boiler. I also have its original firetube boiler. I am working on it to see what is needed to be improved. Will describe later when I am through with what I have in mind. I am counting on it to cheer up the Western meets.

I also attended the San Diego meet last October and took about 80 to 90 feet of 16mm movie film on the outdoor events. Most of it was focused toward two points, the model steam locomotive and R. J. Smith's steam powerplant made for Mr. Taliaferro. Carl Guth said that you may interested in obtaining a copy. I will give you a copy if you can assume the duplicating costs. It is in Kodachrome II.

For the Club information:

1921 Stanley Steamer Model 735E Serial No. 21133 Roadster, Condition (A).

1917 Stanley Steamer 20 hp. engine (reworked but not packed and adjusted).

1921 Stanley Steamer 23" boiler for the above car.

Thank you for all steam interest boost-ups.

Truly Yours,

Laurence L. Plate, Jr., Calif.

January 30, 1967

Gentlemen:

How's the snow?

I wish to express my appreciation of Robert Lyon's assistance in keeping "the voice of the hobby" going.

I enclose my dues of \$6.50 for the year 1967 because I assume from your letter that publication is being carried on under extreme difficulties temporarily. I also enclose a copy of a letter which I recently penned to Roy Ferrier in acknowledgement of a petition directed to you by western members.

I do not know whether Mr. Lyon's interest or Mr. Miner's extends beyond social events and the restoration and exhibition of antiques or not. I do know, from reading "letters to the Editor" that there are perhaps ten persons interested in backyard shop construction of homely "but mine own" steam buggies for every one interested in or financially able to purchase an antique or attend widely spaced regional meets.

Without discounting the Williams Brothers accomplishments I would point out two things . . . the majority will be unable to purchase a Williams Steam car and that their development began in a spare time shop.

I feel certain that the greatest area of interest and the area most open for expansion of the hobby lies in

home-built, experimental rigs. As I told Mr. Ferrier, I am anxious to learn the details of the Frostline buggy, pictured but mentioned only incidentally in S.A. I would suggest you review your subscription list or file of Letters to the Editor to arrive at a definition of the area of most widespread interest, particularly of the one-year-but-no-renewal subscribers.

Yours for continued and ever-improving service to the hobby,

Allen D. Reed, Oregon

Dear Mr. Lyon:

Enclosed please find check for two years membership in the Steam Automobile Club of America, Inc.

I had my 1917 Stanley Touring car in a parade for the children's Christmas Treat. I guess it will be the last trip for 1966, although the car still runs very nicely.

Best wishes for a prosperous New Year.

Abner Devilbiss

Mr. Robert Lyon:

I may be aiming this letter into the void and great unknown. But, I must venture.

Your name and organization was mentioned in Science and Mechanics magazine, Nov. 1961. "Steamers Steam Up Again" by S. S. Miner.

Now I have a Bibliography of articles on Steam Automobiles which goes back to 1900 — a total of 150 magazine articles. Needless to say I find it difficult to procure copies of the magazines or articles.

Let me say at the outset, I am not a curiosity seeker. I feel that I can develop a useable steam engine and I have been keeping records and making changes to my design for it — since about 1950.

My present employment prevents me from devoting much time to this project but that does not keep me from doing design work or exploring materials useful to the improved design.

If you do receive this letter and you get to this part of it I would like to know more about your club.

Tell me all you can.

Sincerely,

William M. Moran

Still pulling after 6 years! That shows the power of steam — Editor.

(Continued from Page 13)

## Elliptocline Progress

cardioid valve. Both valves will work upon the same seat.

Also on display at the Greensboro meet we will have a sixteen-cylinder, radial feedwater pump of high capacity. The plungers are cam operated with spring return. The flow from this pump is very smooth, as one would expect.

We are expecting to see a good turn-out at the Greensboro meet again this year.

*The Steam Automobile*



**ADVERTISEMENTS** — Classified ads: 50¢ per line. Display ads: rates upon application. SACA members, first 5 lines per calendar year free. Minimum charge otherwise: \$2.00. Send copy, inquiries, and payments to: Advertising Mgr., Steam Automobile Club of America, 1937 East 71st Street, Chicago, Illinois 60649.

## **Fifth Annual STEAM EXPOSITION**

ROCKDALE, FLA. — The Miami Railroad Historical Society Inc., held its FIFTH ANNUAL EXPOSITION OF STEAM November 19, 1966 at the GOLD COAST RAILROAD, featuring Historic and Modern Live Steam Models of all types in actual operation.

Our Famous Locomotive #153 was again fired up and used to supply steam and compressed air for operating the exhibits, which included traction engines, steam rollers, pumps, automobile and marine engines, and other interesting and historical replicas of a bygone era.

The GOLD COAST RAILROAD is open to the public each and every Sunday afternoon with train rides every half hour, starting at 1:00 P.M. and the last train leaving "Dogpatch" Station at 5:10 P.M.

To reach the GOLD COAST RAILROAD, drive south on U.S. Highway #1 to S. W. 152 St., (Coral Reef Drive), turn west four miles to the South Campus of the University of Miami, which was the former Richmond Naval Air Base. ☐

(Submitted by: Mrs. Lois C. Beekman, Secretary  
THE GOLD COAST RAILROAD, 811 S. W. 6th St.,  
Ft. Lauderdale, Fla. 33315

### **WANTED**

**SET OF WIRE WHEELS**, 23", and Hubs for 740 Stanley . . . B. H. Atchley, Box 191, Pigeon Forge, Tenn. 37863

**PAIR OF HEADLIGHTS** for 1912, 30 H. P. Stanley  
Write 1937 E. 71st St., Chicago, Ill. 60649

## **1967 SACA MEETS**

- May 5, 6, 7 GREENSBORO, No. Carolina  
Place: Smith's Ranch Motel  
2210 S. Ashe St., Greensboro  
Phone Area 919-272-0182
- May 26, 27, 28 SCOTTSDALE, Arizona  
Place: Executive House Arizonian,  
Scottsdale  
(Send registrations to SACA,  
c/o the Executive House)
- Aug. 25, 26, 27 WILMINGTON, Delaware  
Place: Holiday Inn Motel  
(Send registrations to  
R. L. Lyon, at SACA  
headquarters in Chicago)
- \*Sept. 22, 23, 24 WORTHINGTON, Ohio  
Place: Green Meadows Country Inn  
(Send registrations to  
C. W. Umpelby, 81 E. State St.,  
Columbus, Ohio 43215)

\*N.B.—Please note change in this date.

### **ATTENTION:**

#### **Engine Rebuilders & Parts Suppliers**

There have been several inquiries at SACA headquarters as to whether there is anyone interested in rebuilding engines, such as the Stanley, on either a straight job basis, or an exchange arrangement. Other rebuilt parts, as well, are wanted. Boilers, valves, pumps, wheels — anything and everything, it seems, wears out sooner or later, and needs repair or replacement.

Write to SACA headquarters if you are either a potential buyer or seller of steam car components.

### **MEMBERSHIP APPLICATION to: STEAM AUTOMOBILE CLUB OF AMERICA, INC.**

Annual Dues: \$6.50, membership includes subscription to "The Steam Automobile." for one year. Make check or Money Order payable to Steam Automobile Club of America, Inc., and send to the Steam Automobile Club, 1937 E. 71st St., Chicago, Illinois 60649.

NAME: \_\_\_\_\_

If available at reasonable cost, would you be interested in purchasing a modern steam car?

ADDRESS: \_\_\_\_\_

Yes ☐ No ☐

Please list any Steam Cars, Steam Boats, Steam Engines, Steam Tractors, etc., you own:

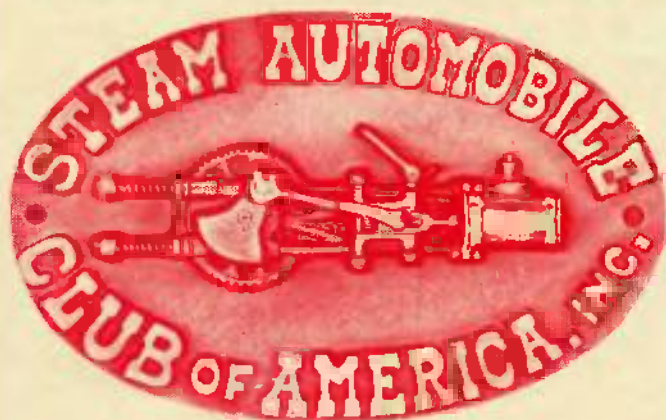
Engine No. Serial No. Body Type

Condition: A. Restored, running; B. Restored, Museum; C. As Found; D. Restoring; E. Running

1966



## S.A.C.A. EMBLEM



● It's a heavy bronze casting, 4½" long, suitable for mounting on the dash of your car, or as a paperweight or desk ornament.

● The engine, cast in deep relief, is a representation of the original engine, now in the Smithsonian, with which Fred Marriott set the World's speed record of 127.6 M.P.H., at Daytona Beach in 1906.

● Get your emblem from The Steam Automobile, 1937 E. 71st St., Chicago, Illinois 60649. Price \$3.50. Make checks payable to The Steam Automobile Club of America, Inc.

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DIETRICH Engine and Rear End, 4" x 5" Poppet Valve Engine, built somewhat on line of Stanley engine, but with cam driven valves mounted on Ford Rear Axle, ready for installation in modern car, but needs work on valves . . . \$500.00 • 20 H. P. STANLEY ENGINE, appears to be in good condition . . . \$400.00 • 4-in-line uniflow steam engine believed to be 100 H.P. by builder, never used, \$800.00. • 20 H. P. Stanley rear axle, believed to be about 1920 . . . \$200.00 • Double Simplex Car, as owned by Charles Briar . . . \$3,500.00 • 2" x 24" Boiler heads, drilled for ¾" steel, extra heavy wireless shell . . . \$150.00 . . . Howard Langdon, Haddam Dock Rd., Haddam, Conn.

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STEAM LAUNCH "Linda", 26' x 7½', VFT boiler, solid fuel or oil fired, Simple 10 H. P. V-compound engine. Keel condenser, pumps, injector, whistle, canopy, winter cover, and cradle included. Owner will be out of country this summer. Make offer. David S. Cooper, 225 Kelburne Ave., No. Tarrytown, N.Y. 10593



### The Steam Automobile Club of America, Inc.

1937 East 71st Street  
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